

AMENDMENT TO THE SPECIFICATION

Page 9--amend the third paragraphs (line 7)

Figs. 2a and 2b are cross section ~~view~~ views of the blending pump assembly of Figure 1.

Page 9--amend the fifth paragraph and add a new paragraph after the fifth paragraph (line 10)

Fig. [[4]] 4a is a cross section view of a vane pump or motor assembly according to an alternate embodiment of the instant invention.

Figs. 4b and 4c are exploded and sectional views of a screw pump assembly according to another embodiment of the instant invention.

Page 9--amend the eighth paragraph (line 15)

Fig. 7 is a schematic drawing of ~~an alternate~~ a first and second embodiment of the present invention.

Page 10--amend the first full paragraph (line 6)

A first preferred embodiment of the compound motor/pump assembly of the instant invention is shown in Figure 1. A blending pump assembly, generally designated as 10, includes a lower gear motor assembly 12 and an upper gear pump assembly 15. Lower gear motor assembly 12 comprises gear motor body 17 and cover 18, the motor body 17 having an inlet fluid channel 21 and an outlet fluid channel 24 (best seen in Figure 2). Inlet fluid channel 21 may be in fluid communication with a pressurized source of a first fluid ~~(not shown)~~ as shown in Figure 7. Motor body 17 further includes a cavity 27 wherein a first pair of gears 30, 31 is nested.

Gears 30, 31 may be circular gears having a plurality of teeth about their periphery, such that the teeth of gear 30 intermesh with the teeth of gear 31. In the particular embodiment depicted in Figure 1, shaft 34 is rotatively secured to motor body 17 and fixedly secured to gear 30, and extends from gear 30 upward through aperture 36 in cover 18 to provide a drive axle 39 for upper gear pump assembly 15. Gear 31 freely rotates on shaft 35, rotatively secured between motor body 17 and cover 18.

Page 10--amend the last paragraph that carries over to page 11 (line 22)

Referring to Figure 3, gear pump assembly 15 comprises a gear pump body 42, to which a cover 43 is attached (Figure 1). A second pair of gears 46, 47 is nested in pump body 42. Gears 46, 47 may be circular gears having a plurality of teeth about their periphery, such that the teeth of gear 46 intermesh with the teeth of gear 47. Gear 46 is securely attached to drive axle 39 such that rotation of gear 30 causes simultaneous rotation of gear 46. A seal (~~not shown~~) 48 in aperture 36 may be provided for preventing fluid communication along shaft 34 between cavity 27 and gear pump body 42. Gear 47 freely rotates on shaft 49, rotatively secured between pump body 42 and cover 43. Pump body 42 has an inlet port 51 and an outlet port 52 creating a flow channel 55 through gear pump assembly 15. Inlet port 51 is in fluid communication with a source of a second fluid (~~not shown~~) as shown in Figure 7. Such second fluid source need not be pressurized.

Page 11--amend the last paragraph that carries over to page 12 (line 16)

In an alternate embodiment, the fluid motor, the pump, or both may be other than gear assemblies, in which the fluid motor and pump have a common rotating shaft. For example, a

vane pump assembly as illustrated in Figure ~~[[4]]~~ 4a can be used as the fluid motor, the pump, or both. Such a vane pump assembly 70 may comprise body 71 having an inlet fluid channel 72 and an outlet fluid channel 74. A slotted impeller 76 having a plurality of vanes 78 is eccentrically supported on shaft 80. Shaft 80 is rotatively secured to body 71. A seal (~~not shown~~) 81 may be provided to prevent fluid leakage along shaft 80. The impeller 76 is located close to body 71 so a crescent-shaped cavity 83 is formed. Vanes 78 fit within slots of the impeller 76 and are configured to extend into such cavity 83 to form a slideable seal against body 71.

Page 12--amend the last paragraph (line 15)

Other combinations of fluid motors and pumps having a common rotating shaft shared between the motor and pump can be used, such as a gear motor, as described with reference to Figures 1 and 2, and a vane pump, as described above. In such a case, the shaft of one of the gears in the gear motor drives the impeller of the vane pump. In another embodiment, a vane pump assembly can be used as a fluid motor with its shaft connected to drive one of the gears of a gear pump. Although not specifically described herein, other motor assemblies and/or pump assemblies of generally similar construction may likewise be utilized, such as a flexible vane pump, a screw pump, as shown in Figures 4b and 4c, etc.

Page 16--amend the first full paragraph and the paragraph that carries over to page 17 (lines 3 and 14, respectively)

Operation of the blending pump assembly of the present invention will now be described with reference, for exemplary purposes, to the particular embodiment shown in Figure 1 and the

schematic drawings in Figure 7. The fluid motor assembly 12 is driven by fluid pressure from a first fluid 105 directed through inlet fluid channel 21. Thus, in the particular embodiment depicted in Figure 1, it is the flow of fluid that drives the first pair of gears 30, 31 in gear motor assembly 12, as opposed to driving the gears to cause fluid to flow. Gears 30, 31 are meshed together and counter-rotate relative to each other when the first fluid 105 is directed through the inlet fluid channel to the outlet fluid channel 24. Shaft 34 from one of the fluid pressure driven gears, gear 30, extends upward through the housing to drive one of the gears, gear 46 of the gear pump assembly 15, which in turn will cause the gears 46, 47 in gear pump assembly 15 to counter rotate relative to each other in order to draw a second fluid 107 through inlet port 51 and pump such second fluid 107 out through outlet port 52.

It can be seen, therefore, that flow of such first fluid 105 enables the pumping of such second fluid 107 since one gear of each pair is secured to a common rotating shaft. The first pair of gears and second pair of gears are sized to provide a predetermined proportion of such second fluid 107 based on the flow of such first fluid 105. The proportional flow of the second fluid in relation to the first fluid may be finely adjusted by adjusting the amount of flow through recirculation channel 58 by use of valve 60. Since pump assembly 15 provides a positive displacement gear pump, increased flow through recirculation channel 58 results in decreased flow through outlet port 52. Additionally, the proportional flow may be grossly adjusted by changing the gears in the gear train between fluid motor drive axel 39 and fluid pump drive axel 93 (or by replacing gear pump body 42 with an alternate gear pump body having a distinct gear or rotor configuration) to enable a single pump assembly to be used in a wide variety of mixing applications.

Page 17--amend the first full paragraph (line 2)

As shown in the schematic view of Figure 7, the combined fluid motor/pump apparatus 10 thus enables the proportional mixing of two distinct fluids, wherein the fluid pressure from the first fluid 105 serves as a driving force for a pump to pump a second fluid 107. Blending pump assemblies may be combined in series, such that the mixture from a first assembly 111 may be continuously diluted by directing the mixture through a second ~~driven pump assembly~~ 114, while directing the driving fluid through a second non-driven (or fluid pressure driven) motor with a common rotating shaft.